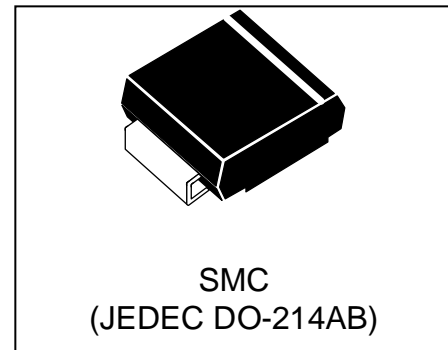


Features

- 3000 watts Peak Pulse Power (10/1000 μ s)
- Unidirectional and Bidirectional Protection
- Fast Response Time: Typically < 1ns
- Excellent Clamping Capability
- Built-in Strain relief
- Low inductance
- Low profile package
- IEC 61000-4-2 (ESD) \pm 30kV(air), \pm 30kV(contact)
- MSL: Level 1



Mechanical Characteristics

- JEDEC DO-214AB package
- Molding compound flammability rating: UL 94V-0
- Marking: Marking Code
- Packaging: Tape and Reel per EIA 481
- RoHS UL497B & HF Compliant

Applications

- I/O Interfaces
- Power lines
- Telecommunication
- Signal lines of sensor units for consumer
- Industrial Electronics
- Computer

Absolute Maximum Rating($T_A=25^{\circ}\text{C}$ unless otherwise noted)			
Rating	Symbol	Value	Units
Peak Pulse Power ($t_p=10/1000\mu\text{s}$) (see Note1,2&3)	P_{PPM}	3000	Watts
Peak pulse current (10/1000 μ s) (see Note2&3)	I_{PPM}	See Electrical Characteristics	A
Peak forward surge current (see Note4&5)	I_{FSM}	300	A
Power dissipation on infinite heat sink $T_L = 50^{\circ}\text{C}$ (Fig5)	P_D	6.5	W
Operating junction temperature range	T_J	-65 to + 150	$^{\circ}\text{C}$
Storage temperature range	T_{STG}	-65 to + 150	$^{\circ}\text{C}$

Note1: Peak Pulse Power Rating as Pulse Width ,per Fig1.

Note2: Peak Pulse Power or Current Derated above $T_A=25^{\circ}\text{C}$ Per Fig. 2 and Non-Repetitive Current Pulse, Per Fig.3.

Note3: Mounted on 5.0x5.0mm² copper pad to each terminal.

Note4: 8.3ms Single Half Sine Wave or Equivalent Square Wave.

Note5: Maximum Forward Surge Current only for Unidirectional Device per Fig6.

Electrical Characteristics($T_A=25^{\circ}\text{C}$ unless otherwise noted)

Part Number		Reverse Stand off Voltage V_{RWM} (V)	Breakdown Voltage $V_{BR}(V)@I_T$		Test Current I_T (mA)	Maximum Clamping Voltage $V_C@I_{PP}$ (V)	Maximum Peak Pulse Current I_{PP} (A)	Maximum Reverse Leakage $I_R@V_{RWM}$ (μA)
			MIN	MAX				
UNI-POLAR	BI-POLAR							
WS5.0P30SMC	WS5.0P30SMC-B	5	6.40	7.00	10	9.2	326.1	800
WS6.0P30SMC	WS6.0P30SMC-B	6	6.67	7.37	10	10.3	291.3	800
WS6.5P30SMC	WS6.5P30SMC-B	6.5	7.22	7.98	10	11.2	267.9	500
WS7.0P30SMC	WS7.0P30SMC-B	7	7.78	8.60	10	12.0	250.0	200
WS7.5P30SMC	WS7.5P30SMC-B	7.5	8.33	9.21	1	12.9	232.6	100
WS8.0P30SMC	WS8.0P30SMC-B	8	8.89	9.83	1	13.6	220.6	50
WS8.5P30SMC	WS8.5P30SMC-B	8.5	9.44	10.40	1	14.4	208.3	20
WS9.0P30SMC	WS9.0P30SMC-B	9	10.00	11.10	1	15.4	194.8	10
WS10P30SMC	WS10P30SMC-B	10	11.10	12.30	1	17.0	176.5	5
WS11P30SMC	WS11P30SMC-B	11	12.20	13.50	1	18.2	164.8	2
WS12P30SMC	WS12P30SMC-B	12	13.30	14.70	1	19.9	150.8	2
WS13P30SMC	WS13P30SMC-B	13	14.40	15.90	1	21.5	139.5	2
WS14P30SMC	WS14P30SMC-B	14	15.60	17.20	1	23.2	129.3	2
WS15P30SMC	WS15P30SMC-B	15	16.70	18.50	1	24.4	123.0	2
WS16P30SMC	WS16P30SMC-B	16	17.80	19.70	1	26.0	115.4	2
WS17P30SMC	WS17P30SMC-B	17	18.90	20.90	1	27.6	108.7	2
WS18P30SMC	WS18P30SMC-B	18	20.00	22.10	1	29.2	102.7	2
WS20P30SMC	WS20P30SMC-B	20	22.20	24.50	1	32.4	92.6	2
WS22P30SMC	WS22P30SMC-B	22	24.40	26.90	1	35.5	84.5	2
WS24P30SMC	WS24P30SMC-B	24	26.70	29.50	1	38.9	77.1	2
WS26P30SMC	WS26P30SMC-B	26	28.90	31.90	1	42.1	71.3	2
WS28P30SMC	WS28P30SMC-B	28	31.10	34.40	1	45.4	66.1	2
WS30P30SMC	WS30P30SMC-B	30	33.30	36.80	1	48.4	62.0	2
WS33P30SMC	WS33P30SMC-B	33	36.70	40.60	1	53.3	56.3	2
WS36P30SMC	WS36P30SMC-B	36	40.00	44.20	1	58.1	51.6	2
WS40P30SMC	WS40P30SMC-B	40	44.40	49.10	1	64.5	46.5	2
WS43P30SMC	WS43P30SMC-B	43	47.80	52.80	1	69.4	43.2	2

Electrical Characteristics (Cont.)

Part Number		Reverse Stand off Voltage V_{RWM} (V)	Breakdown Voltage $V_{BR}(V)@I_T$		Test Current I_T (mA)	Maximum Clamping Voltage $V_C@I_{PP}$ (V)	Maximum Peak Pulse Current I_{pp} (A)	Maximum Reverse Leakage $I_R@V_{RWM}$ (μ A)
			MIN	MAX				
UNI-POLAR	BI-POLAR							
WS45P30SMC	WS45P30SMC-B	45	50.00	55.30	1	72.7	41.3	2
WS48P30SMC	WS48P30SMC-B	48	53.30	58.90	1	77.4	38.8	2
WS51P30SMC	WS51P30SMC-B	51	56.70	62.70	1	82.4	36.4	2
WS54P30SMC	WS54P30SMC-B	54	60.00	66.30	1	87.1	34.4	2
WS58P30SMC	WS58P30SMC-B	58	64.40	71.20	1	93.6	32.1	2
WS60P30SMC	WS60P30SMC-B	60	66.70	73.70	1	96.8	31.0	2
WS64P30SMC	WS64P30SMC-B	64	71.10	78.60	1	103.0	29.1	2
WS70P30SMC	WS70P30SMC-B	70	77.80	86.00	1	113.0	26.5	2
WS75P30SMC	WS75P30SMC-B	75	83.30	92.10	1	121.0	24.8	2
WS78P30SMC	WS78P30SMC-B	78	86.70	95.80	1	126.0	23.8	2
WS85P30SMC	WS85P30SMC-B	85	94.40	104.00	1	137.0	21.9	2
WS90P30SMC	WS90P30SMC-B	90	100.00	111.00	1	146.0	20.5	2
WS100P30SMC	WS100P30SMC-B	100	111.00	123.00	1	162.0	18.5	2
WS110P30SMC	WS110P30SMC-B	110	122.00	135.00	1	177.0	16.9	2
WS120P30SMC	WS120P30SMC-B	120	133.00	147.00	1	193.0	15.5	2
WS130P30SMC	WS130P30SMC-B	130	144.00	159.00	1	209.0	14.4	2
WS150P30SMC	WS150P30SMC-B	150	167.00	185.00	1	243.0	12.3	2
WS160P30SMC	WS160P30SMC-B	160	178.00	197.00	1	259.0	11.6	2
WS170P30SMC	WS170P30SMC-B	170	189.00	209.00	1	275.0	10.9	2

Typical Characteristics

Figure 1. Peak Pulse Power Rating Curve

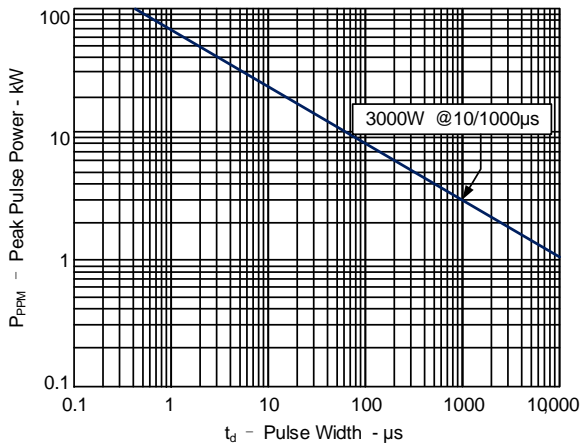


Figure 2. Pulse Derating Curve

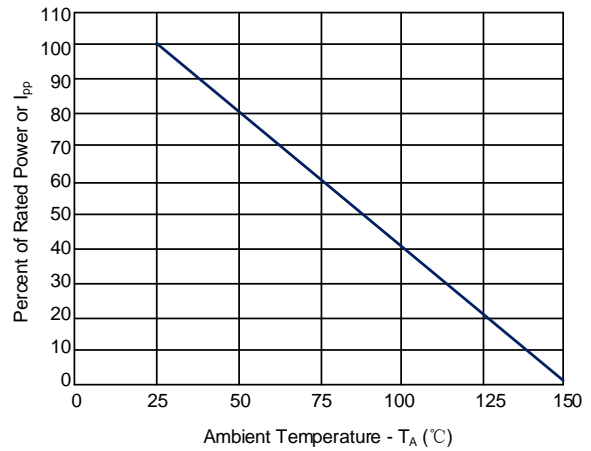


Figure 3. Pulse Waveform

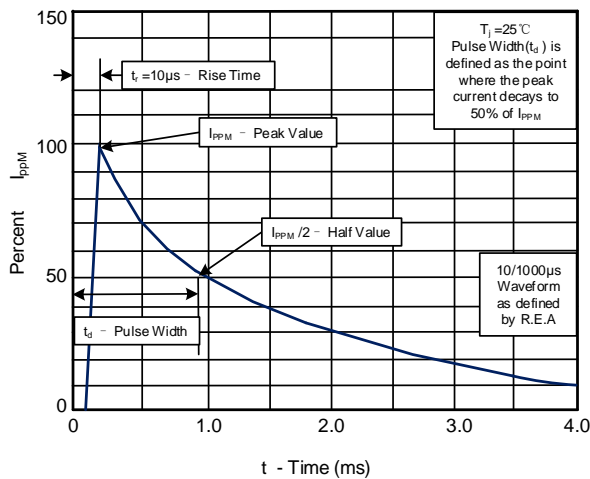


Figure 4. Typical Junction Capacitance

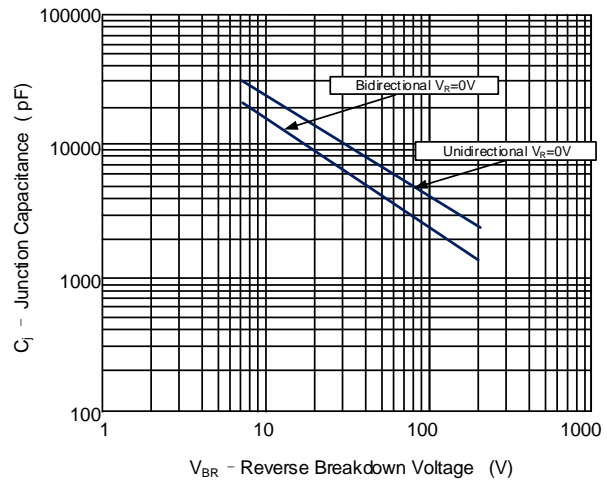


Figure 5. Steady State Power Dissipation Derating Curve

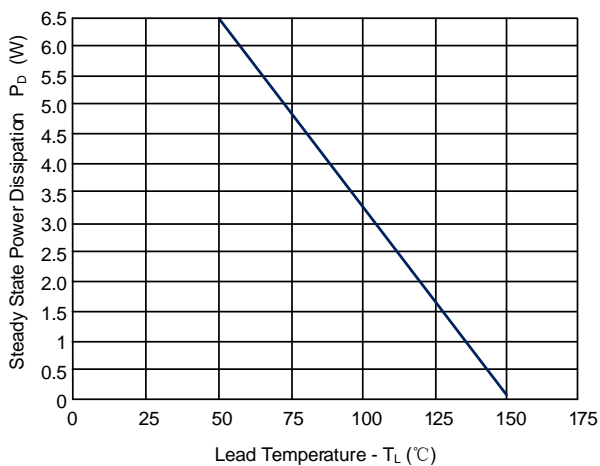
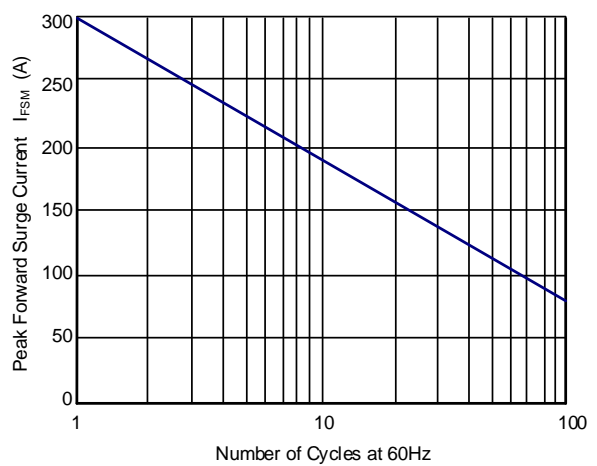


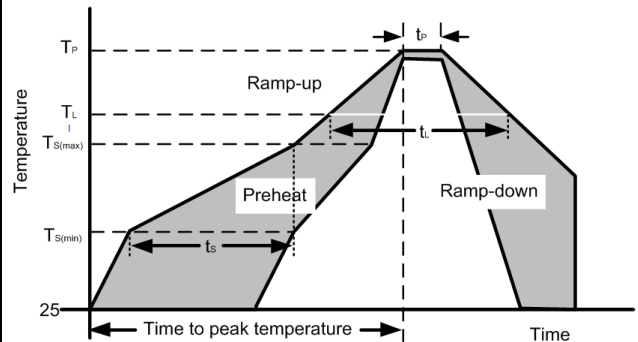
Figure 6. Maximum Non-Repetitive Forward Surge Current Only Unidirectional



Note: The above typical parameters or typical characteristics are only indicative and do not make specific guarantees. If detailed values are required, additional communication and provision are required.

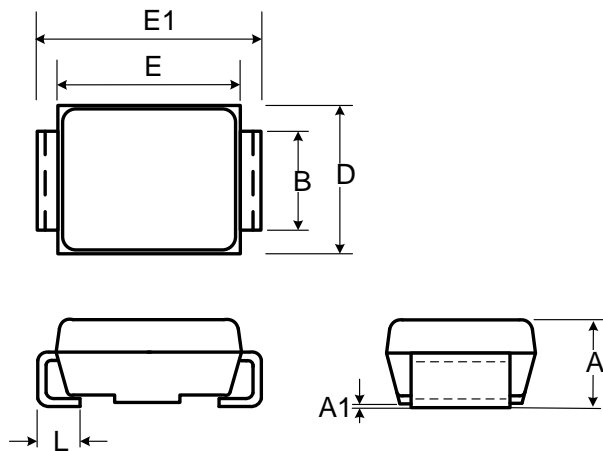
Recommended Soldering Parameters

Reflow Condition		
Pre-Heat	Temperature min ($T_{s(min)}$)	150°C
	Temperature max ($T_{s(max)}$)	200°C
	Time (min to max) (t_s)	60-190 s
Average ramp up rate (Liquidus Temp) (T_L) to peak		3°C/s max
Ts(max) to TL - Ramp-up Rate		3°C/s max
Reflow	Temperature (T_L) (Liquidus)	217°C
	Temperature (t_L)	60-150 s
Peak Temperature (T_P)		260 ^{+0/-5} °C
Time within actual peak Temperature (t_p)		20-40 s
Ramp-down Rate		5°C/s max
Time 25°C to peak Temperature (T_P)		8 minutes max
Do not exceed		260°C

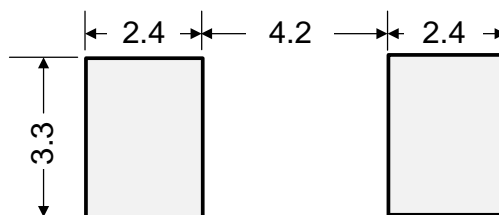


Outline Drawing – SMC (DO-214AB)

Ref. (mm)	Millimeters	
	Min.	Max.
A	2.06	2.70
A1	-	0.30
B	2.90	3.20
E	6.60	7.40
E1	7.75	8.13
D	5.59	6.22
L	0.76	1.52

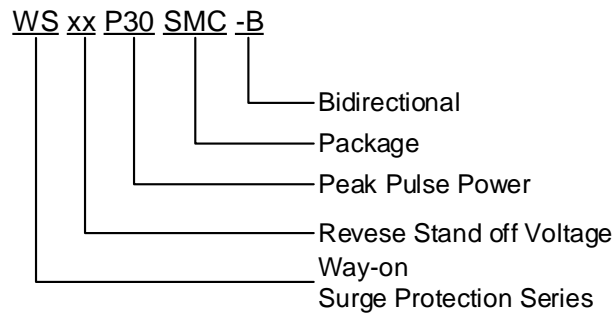


Recommended Solder Pad Layout

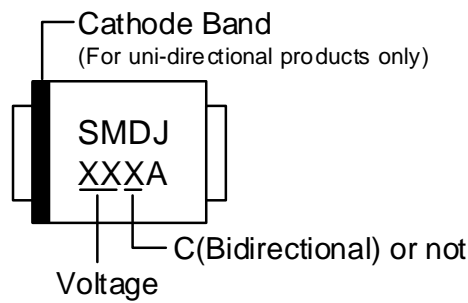


Dimensions in mm

Part Numbering System



Part Marking System

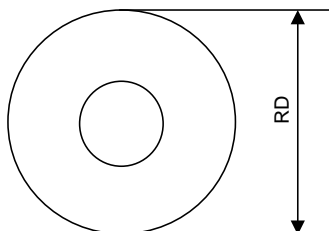


Package Information

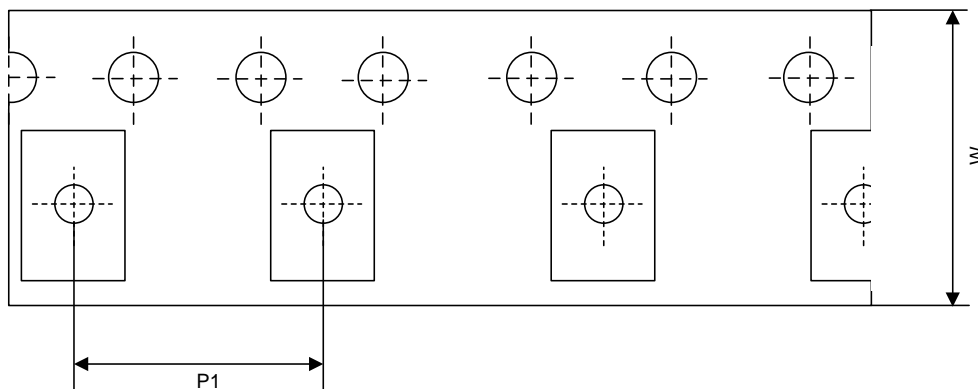
Package Type	Description	Quantity (pcs)
SMC(DO-214AB)	Tape & Reel -16mm/13" tape	3000

Tape and Reel Information

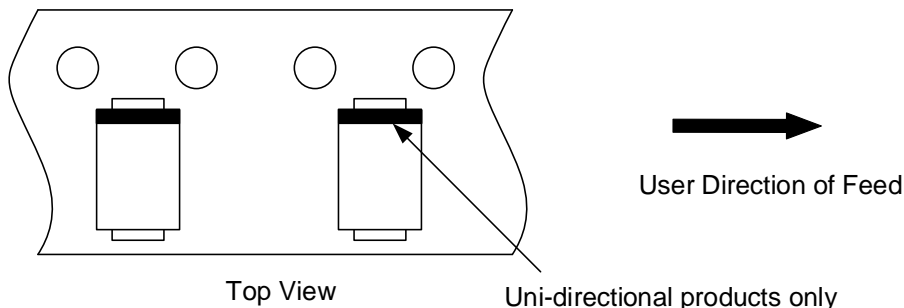
Reel Dimensions



Tape Dimensions



Quadrant Assignments for PIN1 Orientation in tape



RD	Reel Dimensions	13 inch
W	Overall width of the carrier tape	16 mm
P1	Pitch between successive cavity centers	8 mm

Contact Information

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WAYON website: <http://www.way-on.com>

For additional information, please contact your local Sales Representative.

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The product specification aims to provide users with a reference regarding various product parameters, performance, and usage. It presents certain aspects of the product's performance in graphical form and is intended solely for users to select product and make product comparisons, enabling users to better understand and evaluate the characteristics and advantages of the product. It does not constitute any commitment, warranty, or guarantee.

The product parameters described in the product specification are numerical values, characteristics, and functions obtained through actual testing or theoretical calculations of the product in an independent or ideal state. Due to the complexity of product applications and variations in test conditions and equipment, there may be slight fluctuations in parameter test values. WAYON shall not guarantee that the actual performance of the product when installed in the customer's system or equipment will be entirely consistent with the product specification, especially concerning dynamic parameters. It is recommended that users consult with professionals for product selection and system design. Users should also thoroughly validate and assess whether the actual parameters and performance when installed in their respective systems or equipment meet their requirements or expectations. Additionally, users should exercise caution in verifying product compatibility issues, and WAYON assumes no responsibility for the application of the product.

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